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ITW #

PATENT  
Attorney Reference Number 7158-71253-10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**In re application of:** Hunter *et al.*

**Application No.** 10/648,631

**Filed:** August 25, 2003

**Confirmation No.** 5328

**For:** NIMA INTERACTING PROTEINS

**Examiner:** Lei Yao, Ph.D.

**Art Unit:** 1642

**Attorney Reference No.** 7158-71253-10

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Attorney or Agent  
for Applicant(s)

*Debra A. Gordon*

Date Mailed September 27, 2005

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Enclosed for filing in the above-referenced application are the following (collectively, an "IDS"):

- ☒ Information Disclosure Statement;
- ☒ Form 1449, and
- ☒ Copies of references (46).

Also enclosed is check no. 118085 in the amount of \$180.00 in payment of the fee prescribed by 37 C.F.R. 1.17(p). The Director is hereby authorized to charge any additional fees that may be required to file this IDS, or credit over-payment, to Deposit Account No. 02-4550. A copy of this sheet is enclosed.

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Respectfully submitted,

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cc: Docketing



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Name: Debra D. Dm

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**INFORMATION DISCLOSURE STATEMENT**

The above-referenced application relies upon U.S. Patent Application No. 10/616,410, filed July 8, 2003, U.S. Patent Application No. 09/275,900, filed March 24, 1999, now issued as U.S. Patent No. 6,596,848; U.S. Patent Application No. 09/066,074, filed April 24, 1998, now issued as U.S. Patent No. 5,952,467; and U.S. Patent Application No. 08/555,912, filed November 13, 1995, now issued as U.S. Patent No. 5,972,697 (collectively, "Priority Applications"), for an earlier filing date under 35 U.S.C. §120.

Listed on the accompanying form PTO-1449 are several English-language documents, some of which were disclosed to, or cited by, the United States Patent and Trademark Office ("Patent Office") in the Priority Applications. Applicants respectfully request that each document listed on the form PTO-1449 be shown as a reference cited on the issued patent.

Copies of United States patents and United States published patent applications do not have to be provided to the Patent Office (37 C.F.R. §1.98(a)(2)(ii)). Copies of unpublished U.S. patent applications do not have to be provided, as long as the application is available on PAIR, as this requirement of 37 C.F.R. §1.98(a)(2)(iii) has been waived by the Patent Office


(1287 OG 163). Copies of the documents listed on the accompanying form PTO-1449 that were submitted by Applicants or cited by the Patent Office in the Priority Applications need not be sent to the Patent Office (37 C.F.R. §1.98). Applicants will provide copies of any of such patents, applications, or documents upon request.

In compliance with 37 C.F.R. §1.97(c), this Information Disclosure Statement ("IDS") is being mailed before receipt of a final action, a notice of allowance, or an action that otherwise closes prosecution in the above-referenced application. Accordingly, submitted herewith is a check in the amount of \$180.00 in payment of the fee set forth in 37 C.F.R. §1.17(p). Please charge any additional fees that may be required in connection with filing this IDS, or credit any overpayment, to the deposit account referenced in the accompanying transmittal letter.

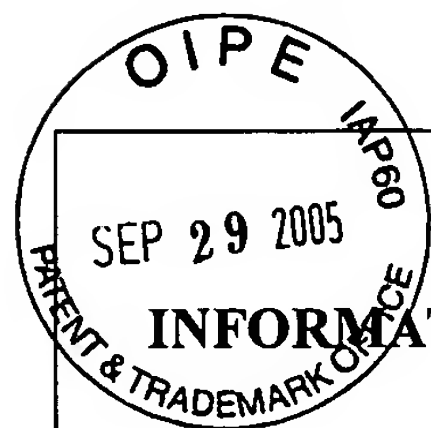
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Respectfully submitted,

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Attorney Docket Number	7158-71253-10
Application Number	10/648,631
Filing Date	August 25, 2003
First Named Inventor	Hunter
Art Unit	1642
Examiner Name	Lei Yao, Ph.D.

## U.S. PATENT DOCUMENTS

Copies of U.S. Patent documents do not need to be provided, unless requested by the Patent and Trademark Office. For patents, provide the patent number and the issue date. For published U.S. applications, provide the publication number and the publication date. For unpublished pending patent applications, provide the application number and the filing date.

Examiner's Initials*	Cite No. (optional)	Number	Publication Date	Name of Applicant or Patentee
		5,443,962	08/22/1995	Draetta <i>et al.</i>
		6,596,848	07/22/2003	Hunter <i>et al.</i>
		2002/0025521	02/28/2002	Lu <i>et al.</i>
		2003/0225528	12/04/2003	Baker <i>et al.</i>
		2004/0101896	05/27/2004	Hunter <i>et al.</i>
		2004/0171019	09/02/2004	Matthews <i>et al.</i>
		2005/0027107	02/03/2005	Hunter <i>et al.</i>
		2005/0049404	03/03/2005	Hunter <i>et al.</i>

## FOREIGN PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Country	Number	Publication Date	Name of Applicant or Patentee
		WIPO	WO 99/12962	03/1999	Lu <i>et al.</i>

## OTHER DOCUMENTS

		#1230, Random Primer, New England Biolabs, Catalog 1993/4).
		Amon <i>et al.</i> , "Regulation of p34 <sup>CDC28</sup> tyrosine phosphorylation is not required for entry into mitosis in <i>S. cerevisiae</i> ." <i>Nature</i> , 355:368-371, 1992.
		Burgess <i>et al.</i> , "Possible dissociation of the heparin-binding and mitogenic activities of heparin-binding (acidic fibroblast) growth factor-1 from its receptor-binding activities by site-directed mutagenesis of a single lysine residue." <i>J. Cell Biol.</i> , 111:2129-2138, 1990.

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		Cech, "Ribozymes and Their Medical Implications." <i>J. Am. Med. Assn.</i> , 260(20):3030-3034, 1988.		
		Choi <i>et al.</i> , "Activation of p34 <sup>cdc2</sup> protein kinase activity in meiotic and mitotic cell cycles in mouse oocytes and embryos." <i>Development</i> , 113:789-795, 1991.		
		Chong <i>et al.</i> , "A human telomeric protein." <i>Science</i> , 270:1663-1667, 1995.		
		Durfee <i>et al.</i> , "The retinoblastoma protein associates with the protein phosphatase type 1 catalytic subunit." <i>Genes Dev.</i> , 7:555-569, 1993.		
		Dyck <i>et al.</i> , "A Novel Macromolecular Structure Is a Target of the Promyelocyte-Retinoic Acid Receptor Oncoprotein." <i>Cell</i> , 76:333-343, 1994.		
		Eldredge <i>et al.</i> , "Use of Tetracycline Operator System to Regulate Oncogene Expression in Mammalian Cells." <i>Methods Enzymol.</i> , 254:481-491, 1995.		
		Engleman, <i>Human Hybridomas and Monoclonal Antibodies</i> , New York:Plenum Press, 1985.		
		Fields and Song, "A novel genetic system to detect protein-protein interactions." <i>Nature</i> , 340:245-246, 1989.		
		Fraley and Papahadjopoulos, "New generation liposomes: the engineering of an efficient vehicle for intracellular delivery of nucleic acids." <i>Trends Biochem. Sci.</i> , 6:77-80, 1981.		
		Fruman <i>et al.</i> , "Immunophilins in protein folding and immunosuppression." <i>FASEB J.</i> , 8:391-400, 1994.		
		Fu and Maniatis, "Factor required for mammalian spliceosome assembly is localized to discrete regions in the nucleus." <i>Nature</i> , 343:437-441, 1990.		
		Gavin <i>et al.</i> , "Histone H1 kinase activity, germinal vesicle breakdown and M phase entry in mouse oocytes." <i>J. Cell Sci.</i> , 107:275-283, 1994.		
		Gossen and Bujard, "Tight control of gene expression in mammalian cells by tetracycline-responsive promoters." <i>Proc. Natl. Acad. Sci. USA</i> , 89:5547-5551, 1992.		
		Gui <i>et al.</i> , "A serine kinase regulates intracellular localization of splicing factors in the cell cycle." <i>Nature</i> , 369:678-682, 1994.		
		Hanes <i>et al.</i> , "Sequence and Mutational Analysis of <i>ESS1</i> , a Gene Essential for Growth in <i>Saccharomyces cerevisiae</i> ." <i>Yeast</i> , 5:55-72, 1989.		
		Hani <i>et al.</i> , " <i>PTF1</i> encodes an essential protein in <i>Saccharomyces cerevisiae</i> , which shows strong homology with a new putative family of PPIases." <i>FEBS Lett.</i> , 365:198-202, 1995.		
		Hannon <i>et al.</i> , "Isolation of the Rb-related p130 through its interaction with CDK2 and cyclins." <i>Genes Dev.</i> , 7:2378-2391, 1993.		

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		Harper <i>et al.</i> , "The p21 Cdk-Interacting Protein Cip1 Is a Potent Inhibitor of G1 Cyclin-Dependent Kinases." <i>Cell</i> , 75:805-816, 1993.		
		Heitman <i>et al.</i> , "Identification of Immunosuppressive Drug Targets in Yeast." <i>Methods Companion Methods Enzymol.</i> , 5:176-187, 1993.		
		Helene, "The anti-gene strategy: control of gene expression by triplex-forming-oligonucleotides." <i>Anticancer Drug Des.</i> , 6:569-584, 1991 (abstract only).		
		Hillier <i>et al.</i> , EST-STS Database, Accession No. H41102, 1991.		
		Hillier <i>et al.</i> , EST-STS Database, Accession No. T82035, 1995.		
		Jaye <i>et al.</i> , "Isolation of a human anti-haemophilic factor IX cDNA clone using a unique 52-base synthetic oligonucleotide probe deduced from the amino acid sequence of bovine factor IX." <i>Nucl. Acid Res.</i> , 11(8):2325-2335, 1983.		
		Jung <i>et al.</i> , "Kinetics of MPF and histone H1 kinase activity differ during the G2- to M-phase transition in mouse oocytes." <i>Int. J. Dev. Biol.</i> , 37:595-600, 1993.		
		Kohler and Milstein, "Continuous cultures of fused cells secreting antibody of predefined specificity." <i>Nature</i> , 256:495-497, 1975.		
		Lambert-Messerlian <i>et al.</i> , "Human follicular fluid contains pro- and C-terminal immunoreactive alpha-inhibin precursor proteins." <i>J. Clin. Endocrinol. Metab.</i> , 78:433-439, 1994.		
		Lazar <i>et al.</i> , "Transforming growth factor alpha: mutation of aspartic acid 47 and leucine 48 results in different biological activities." <i>Mol. Cell Biol.</i> , 8:1247-1252, 1988.		
		Lee and Nathans, "Proliferin Secreted by Cultured Cells Binds to Mannose 6-Phosphate Receptors." <i>J. Biol. Chem.</i> , 263(7):3521-3527, 1988.		
		Lu <i>et al.</i> , "Properties and regulation of the cell cycle-specific NIMA protein kinase of <i>Aspergillus nidulans</i> ." <i>J. Biol. Chem.</i> , 268:8769-8776, 1993.		
		Lu <i>et al.</i> , "Identification of Substrate Specificity Determinants for the Cell Cycle-regulated NIMA Protein Kinase." <i>J. Biol. Chem.</i> , 269:6603-6607, 1994.		
		Lu <i>et al.</i> , "Evidence for a NIMA-like mitotic pathway in vertebrate cells." <i>Cell</i> , 81:413-424, 1995.		
		Lu <i>et al.</i> , "Expression of the noncatalytic domain of the NIMA kinase causes a G2 arrest in <i>Aspergillus nidulans</i> ." <i>EMBO J.</i> , 13:2103-2113, 1994.		
		Maher <i>et al.</i> , "Oligonucleotide-Directed DNA Triple-Helix Formation: An Approach to Artificial Repressors?" <i>Antisense Res. Dev.</i> , 1:277-281, 1991.		

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		Mannino and Gould-Fogerite, "Liposome Mediated Gene Transfer." <i>Biotechniques</i> , 6(7):682-690, 1988.		
		Marcus-Sekura, "Review: Techniques for Using Antisense Oligodeoxyribonucleotides to Study Gene Expression." <i>Anal. Biochem.</i> , 172:289-295, 1988.		
		Morris <i>et al.</i> , "The genetic analysis of mitosis in <i>Aspergillus nidulans</i> ." <i>Bioessays</i> , 10:196-201, 1989.		
		O'Connell <i>et al.</i> , "Premature chromatin condensation upon accumulation of NIMA." <i>EMBO J.</i> , 13:4926-4937, 1994.		
		Osmani <i>et al.</i> , "Mitotic induction and maintenance by overexpression of a G2-specific gene that encodes a potential protein kinase." <i>Cell</i> , 53:237-244, 1988.		
		Osmani <i>et al.</i> , "Parallel Activation of the NIMA and p34 <sup>cdc2</sup> Cell Cycle-Regulated Protein Kinases Is Required to Initiate Mitosis in <i>A. nidulans</i> ." <i>Cell</i> , 67:283-291, 1991.		
		Peattie <i>et al.</i> , "Expression and characterization of human FKBP52, an immunophilin that associates with the 90-kDa heat shock protein and is a component of steroid receptor complexes." <i>Proc. Natl. Acad. Sci. USA</i> , 89:10974-10979, 1992.		
		Rahfeld <i>et al.</i> , "Confirmation of the existence of a third family among peptidyl-prolyl cis/trans isomerases: Amino acid sequence and recombinant production of parvulin." <i>FEBS Lett.</i> , 352:180-184, 1994.		
		Rosborough <i>et al.</i> , "Identification of FKBP-related proteins with antibodies of predetermined specificity and isolation by FK 506 affinity chromatography." <i>Transplantation Proc.</i> , 23:2890-2893, 1991.		
		Rosenberg <i>et al.</i> , "Vectors for selective expression of cloned DNAs by T7 RNA polymerase." <i>Gene</i> , 56:125-135, 1987.		
		Rudd <i>et al.</i> , "A new family of peptidyl-prolyl isomerases." <i>Trends Biochem. Sci.</i> , 20:12-14, 1995.		
		Sazer <i>et al.</i> , "Mitochondrial growth and DNA synthesis occur in the absence of nuclear DNA replication in fission yeast." <i>J. Cell Sci.</i> , 97:509-516, 1990.		
		Schreiber, "Chemistry and Biology of the Immunophilins and Their Immunosuppressive Ligands." <i>Science</i> , 251:283-287, 1991.		
		Schultz <i>et al.</i> , "Cell Cycle-dependent Expression of Nek2, a Novel Human Protein Kinase Related to the NIMA Mitotic Regulator of <i>Aspergillus nidulans</i> <sup>1</sup> ." <i>Cell. Growth Differ.</i> , 5:625-635, 1994.		
		Schultz <i>et al.</i> , "Identification of 21 Novel Human Protein Kinases, Including 3 Members of a Family Related to the Cell Cycle Regulator <i>nimA</i> of <i>Aspergillus nidulans</i> ." <i>Cell Growth Differ.</i> , 4:821-830, 1993.		

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		Schweitzer <i>et al.</i> , "NPK1, a nonessential protein kinase gene in <i>Saccharomyces cerevisiae</i> with similarity to <i>Aspergillus nidulans nimA</i> ." <i>Mol. Gen. Genet.</i> , 234:164-167, 1992.	
		Sikorski and Hieter, "A System of Shuttle Vectors and Yeast Host Strains Designed for Efficient Manipulation of DNA in <i>Saccharomyces cerevisiae</i> ." <i>Genetics</i> , 122:19-27, 1989.	
		Sorger and Murray, "S-phase feedback control in budding yeast independent of tyrosine phosphorylation of p34 <sup>cdc28</sup> ." <i>Nature</i> , 355:365-368, 1992.	
		Stueland <i>et al.</i> , "Full Activation of p34 <sup>CDC28</sup> Histone H1 Kinase Activity Is Unable To Promote Entry into Mitosis in checkpoint-Arrested Cells of the Yeast <i>Saccharomyces cerevisiae</i> ." <i>Mol. Cell. Bio.</i> , 13:3744-3755, 1993.	
		Sudol <i>et al.</i> , "Characterization of a novel protein-binding module – the WW domain." <i>FEBS Lett.</i> , 369:67-71, 1995.	
		Sudol <i>et al.</i> , "Characterization of the Mammalian YAP (Yes-associated Protein) Gene and Its Role in Defining a Novel Protein Module, the WW Domain." <i>J. Biol. Chem.</i> , 270(24):14733-14741, 1995.	
		Wallace <i>et al.</i> , "The use of synthetic oligonucleotides as hybridization probes. II. Hybridization of oligonucleotides of mixed sequence to rabbit $\beta$ -globin DNA." <i>Nucl. Acid Res.</i> , 9(4):879-894, 1981.	
		Weintraub, "Antisense RNA and DNA." <i>Scientific American</i> , 262:40-46, 1990.	
		Yocum <i>et al.</i> , "Use of <i>lacZ</i> fusions to Delimit Regulatory Elements of the Inducible Divergent <i>GAL1-GAL10</i> Promoter in <i>Saccharomyces cerevisiae</i> ." <i>Mol. Cell. Bio.</i> , 4(10):1985-1998, 1984.	
		Yoon <i>et al.</i> , "Genetic and Biochemical Interactions between an Essential Kinetochore Protein, Cbf2p/Ndc10p, and the <i>CDC34</i> Ubiquitin-Conjugating Enzyme." <i>Mol. Cell. Biol.</i> , 15:4835-4842, 1995	

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